

Biosolids Annual Report: **Reporting year 2012**

3.1 Requirements -

3.2.1. Name of facility; Stromo, LLC

3.2.2. Permit number; 650222

3.2.3. Contact person for this facility:

3.2.3.1 Name; Lawton Lieder

3.2.3.2. Title; Operations Manager

3.2.3.3. Phone number; Desk 303-535-5677 or Cell 970-539-0653

3.2.4. The total amount of sewage sludge, in dry metric tons, that is generated by this facility during the reporting year; n/a, 0 dry tons

3.2.5. Sewage sludge received from other facilities during the reporting year:

3.2.5.1. Total amount of sewage sludge received (dry metric tons) 1,755 dry tons

3.2.5.2. For each facility sending sewage sludge to this facility:

Name of facility; Metro Wastewater Reclamation District

Location of that facility; Denver, Co

Amount of sewage sludge, in dry metric tons, received from the facility; 1,755 dry tons

3.2.6. Sewage sludge sent to other facilities/operations: n/a, 0 dry tons

3.2.7. The amount of sewage sludge, in dry metric tons, placed in storage during the reporting year. n/a, 0 dry tons
(all incoming material is used for composting and dispersed through sale of material)

3.2.8. A brief narrative description of the treatment provided to sewage sludge. Name each treatment process and give a brief summary of operating conditions (e.g., anaerobic digestion, 20 days at 250 C) and pollutant concentrations:

Stromo, LLC receives biosolids cake material from Denver Metro Wastewater Reclamation District. Prior to delivery of materials at the Stromo composting site, Metro provides Stromo with their self monitoring summary reports. These reports verify compliance with biosolids sampling and the completion of Volatile Solids Reduction, which confirms the process of Vector Attraction Reduction has been completed offsite prior to delivery.

Biosolids arrive at the Stromo facility by truck. After an initial inspection of the material, receipt of the material is documented. Documentation will include generator and transporter information, classification of the material, and volume information. After documentation is completed, the materials are delivered to the designated composting/recycling operation and offloaded at designated areas for blending or mixing, placement in windrows, in-vessel systems, storage, and or processing.

Biosolids are mixed on the mixing pad with bulking agents and placed in appropriate production windrows, piles or vessels immediately upon receipt at the facility. Biosolids are covered with a layer of wood chips/bulking agent prior to the end of the next day. Biosolids are mixed at a ratio of four parts wood feedstocks to one part biosolids, and then an additional two parts wood to one part composted material is added during the first turn of material.

Biosolids are composted separately from other materials in the designated location. Production activities will consist of mixing or blending of feedstocks, bulking agents, and wetting agents on the processing site, and

formation of, or placement in appropriate processing units (windrows, in-vessel systems, static piles, etc.). If wetting agents are needed (liquids), mixing will be accomplished on the mixing pad or applied with tank trucks directly to the windrows.

Aerated windrow composting is used as the composting procedure. In this procedure, feedstocks and bulking agents are blended to produce the pre-compost mixture. The compost mixture is placed in long piles called windrows. The windrows can be various sizes, but generally are approximately 12-18 feet wide, and 6-9 feet tall. These windrows are normally sized to accommodate the equipment that will be used to aerate them.

Once formed the bacteria and fungi present in the windrows will begin the composting process. The bacteria will cause the pile temperatures to increase. Pile temperatures will reach temperatures over 120 degrees. Temperatures are controlled via aeration and by moisture balance. The major byproducts of the decomposition process produced by the bacteria and fungi present in the pile are carbon dioxide, water vapor, and heat. Pathogen reduction of biosolids material is met through the composting procedure, as specified by *40 CFR Part 503*. The heat process reaches at least 55 degrees Celsius for periods of times for seven consecutive days, at a minimum of three times. Temperatures are taken and logged daily.

During the composting period, the windrows will be aerated using the specialized equipment or loaders. The aeration process is done to introduce additional oxygen to the pile, release excess moisture, reduce particle size, and to condition the material in the windrow. Material is turned every seven days for seven weeks. It is then transported to a static pile for twelve months before leaving the site.

At the end of this process, material is sampled again to ensure the requirements for biosolids distribution have been met. The material is then taken through a screening process and dispersed offsite through the sale of composted material.

4.1 Requirements -

Biosolid samples are attached, including results for incoming biosolids and composted material using biosolids.

Pathogen Reduction

Class B:

- Class B – Alternative 1 (geometric mean of 7 samples)
- Class B – Alternative 2 (indicate which PSRP)
 - (a) aerobic digestion
 - (b) air drying
 - (c) anaerobic digestion
 - (d) composting
 - (e) lime stabilization (pH at 25' C or equivalent)
- Class B – Alternative 3 (attach PSRP equivalent documentation)

Vector Attraction Reduction

Method Used:

- Option 1 (minimum 38 percent reduction in volatile solids)
- Option 2 (Anaerobic process, with bench-scale demonstration)
- Option 3 (Aerobic Process, with bench scale demonstration)
- Option 4 (Specific Oxygen Uptake Rate (SOUR), aerobically digested)
- Option 5 (Aerobic Process plus raised temperature)
- Option 6 (Raise pH to 12 and retain at 11.5)
- Option 7 (75% solids with no unstabilized solids)
- Option 8 (90% solids with unstabilized solids)
- Option 9 (Injection below land surface with significant soil coverage)
- Option 10 (Covering active sewage sludge unit daily)

**See attached all Pathogen Reduction and Vector Attraction Reduction documentation to demonstrate compliance

5.1 Requirements -

Does not apply - No landfilling

6.1 Requirements -

Does not apply - No surface disposal

7.1 Requirements -

Does not apply - No land application from wastewater lagoons

10.7.4. Requirements - Certification

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed Name: Lawton L. Leeder

Signature: Lawton L. Leeder

Date: 12/23/13

PRELIMINARY
METRO WASTEWATER RECLAMATION DISTRICT
BIOSOLIDS DISTRIBUTION

Destination Code: 609 SW 1/4 SEC 24 T3N R65W
 Approved Dry Acres: Consumer: RENEWABLE FIBER INC.
 Approved Irrig. Acres: County: Weld
 Area Applied To: Acres
 Total Applied: 1755. Dry Tons
 ACTUAL Application Rate: Tons / Acre
 Trip Miles: 72

Date	Mtl Cd	Description	Number of Truckloads	Wet Tons	Dry Tons	% TS	Distance Miles
01/09/2012	5	CAKE	1	21.38	3.63	17.0	72
01/16/2012	5	CAKE	1	20.90	4.05	19.4	72
01/18/2012	5	CAKE	3	62.64	11.96	19.1	216
01/19/2012	5	CAKE	1	22.06	4.50	20.4	72
01/23/2012	5	CAKE	4	81.14	16.23	20.0	288
01/26/2012	5	CAKE	8	165.77	34.81	21.0	576
01/27/2012	5	CAKE	8	164.80	34.61	21.0	576
01/30/2012	5	CAKE	4	81.01	14.99	18.5	288
01/31/2012	5	CAKE	4	79.79	16.20	20.3	288
02/03/2012	5	CAKE	1	20.10	4.10	20.4	72
02/04/2012	5	CAKE	11	223.61	44.95	20.1	792
02/07/2012	5	CAKE	2	40.28	7.81	19.4	144
02/09/2012	5	CAKE	1	21.08	4.19	19.9	72
02/21/2012	5	CAKE	8	167.94	33.08	19.7	576
02/24/2012	5	CAKE	3	64.02	13.00	20.3	216
02/27/2012	5	CAKE	4	80.02	15.60	19.5	288
02/28/2012	5	CAKE	4	84.44	16.30	19.3	288
03/06/2012	5	CAKE	2	41.02	8.49	20.7	144
03/12/2012	5	CAKE	4	84.54	16.32	19.3	288
03/13/2012	5	CAKE	4	80.26	16.21	20.2	288
03/19/2012	5	CAKE	4	80.33	15.66	19.5	288
03/20/2012	5	CAKE	3	62.67	11.41	18.2	216
03/22/2012	5	CAKE	4	87.13	17.08	19.6	288
03/23/2012	5	CAKE	4	87.13	17.77	20.4	288
03/26/2012	5	CAKE	4	87.89	17.58	20.0	288
03/29/2012	5	CAKE	4	79.85	15.09	18.9	288
03/30/2012	5	CAKE	1	22.13	4.05	18.3	72
04/03/2012	5	CAKE	4	79.01	14.93	18.9	288

"A" indicates that the current month average value for %TS has been used in the calculation.
 -4 indicates insufficient data to compute.

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PRELIMINARY
METRO WASTEWATER RECLAMATION DISTRICT
BIOSOLIDS DISTRIBUTION

Destination Code: 609 SW 1/4 SEC 24 T3N R65W
 Approved Dry Acres: Consumer: RENEWABLE FIBER INC.
 Approved Irrig. Acres: County: Weld
 Area Applied To:
 Total Applied: 1755.
 ACTUAL Application Rate:
 Trip Miles: 72

Date	Mtl Cd	Description	Number of Truckloads	Wet Tons	Dry Tons	% TS	Distance Miles
04/11/2012	5	CAKE	1	20.91	3.89	18.6	72
04/13/2012	5	CAKE	1	22.08	4.28	19.4	72
04/20/2012	5	CAKE	12	259.84	51.45	19.8	864
04/23/2012	5	CAKE	4	87.60	18.92	21.6	288
04/26/2012	5	CAKE	1	21.68	4.53	20.9	72
04/27/2012	5	CAKE	11	235.04	50.06	21.3	792
05/01/2012	5	CAKE	1	22.09	4.73	21.4	72
05/07/2012	5	CAKE	4	82.53	13.29	16.1	288
05/19/2012	5	CAKE	8	168.55	34.55	20.5	576
05/23/2012	5	CAKE	2	41.59	8.78	21.1	144
05/24/2012	5	CAKE	18	384.83	80.43	20.9	1296
05/31/2012	5	CAKE	1	21.71	4.41	20.3	72
06/11/2012	5	CAKE	1	21.72	4.19	19.3	72
06/16/2012	5	CAKE	16	338.44	68.70	20.3	1152
06/26/2012	5	CAKE	4	86.22	18.19	21.1	288
06/28/2012	5	CAKE	5	107.12	21.96	20.5	360
06/29/2012	5	CAKE	8	167.87	33.91	20.2	576
07/03/2012	5	CAKE	9	190.87	36.46	19.1	648
07/07/2012	5	CAKE	4	84.07	17.82	21.2	288
07/19/2012	5	CAKE	6	125.19	26.04	20.8	432
07/20/2012	5	CAKE	12	245.94	53.12	21.6	864
07/26/2012	5	CAKE	3	61.18	12.91	21.1	216
08/03/2012	5	CAKE	6	128.21	28.08	21.9	432
08/07/2012	5	CAKE	1	21.33	4.33	20.3	72
08/09/2012	5	CAKE	2	40.40	8.24	20.4	144
08/15/2012	5	CAKE	3	61.52	12.43	20.2	216
08/16/2012	5	CAKE	5	107.32	22.11	20.6	360
08/17/2012	5	CAKE	2	40.75	7.91	19.4	144

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PRELIMINARY
METRO WASTEWATER RECLAMATION DISTRICT
BIOSOLIDS DISTRIBUTION

Destination Code: 609 SW 1/4 SEC 24 T3N R65W
 Approved Dry Acres: Consumer: RENEWABLE FIBER INC.
 Approved Irrig. Acres: County: Weld
 Area Applied To:
 Total Applied: 1755.
 ACTUAL Application Rate:
 Trip Miles: 72

Date	Mtl Cd	Description	Number of Truckloads	Wet Tons	Dry Tons	% TS	Distance Miles
08/27/2012	5	CAKE	1	20.51	4.33	21.1	72
08/30/2012	5	CAKE	12	258.43	54.01	20.9	864
08/31/2012	5	CAKE	2	43.30	8.88	20.5	144
09/07/2012	5	CAKE	1	20.53	4.58	22.3	72
09/14/2012	5	CAKE	6	126.21	27.01	21.4	432
09/15/2012	5	CAKE	3	64.08	13.65	21.3	216
09/22/2012	5	CAKE	12	253.95	53.08	20.9	864
09/26/2012	5	CAKE	4	86.72	17.95	20.7	288
09/27/2012	5	CAKE	4	84.86	17.65	20.8	288
09/28/2012	5	CAKE	4	84.22	16.17	19.2	288
10/04/2012	5	CAKE	3	65.97	14.65	22.2	216
10/13/2012	5	CAKE	5	104.79	22.74	21.7	360
10/19/2012	5	CAKE	5	105.93	21.61	20.4	360
10/25/2012	5	CAKE	2	43.64	9.25	21.2	144
10/26/2012	5	CAKE	3	63.28	13.86	21.9	216
10/27/2012	5	CAKE	4	87.60	18.05	20.6	288
10/29/2012	5	CAKE	5	107.05	21.30	19.9	360
10/30/2012	5	CAKE	4	84.76	16.87	19.9	288
10/31/2012	5	CAKE	3	64.30	12.73	19.8	216
11/05/2012	5	CAKE	1	21.49	4.38	20.4	72
11/24/2012	5	CAKE	20	414.76	91.66	22.1	1440
11/26/2012	5	CAKE	5	102.99	21.73	21.1	360
11/27/2012	5	CAKE	7	144.87	30.42	21.0	504
11/29/2012	5	CAKE	1	21.37	4.49	21.0	72
12/19/2012	5	CAKE	6	126.96	27.30	21.5	432
12/26/2012	5	CAKE	23	476.54	99.12	20.8	1656
12/28/2012	5	CAKE	4	84.13	17.41	20.7	288
Total All Materials			407	8552.78	1755.20		29304

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PRELIMINARY
METRO WASTEWATER RECLAMATION DISTRICT
BIOSOLIDS DISTRIBUTION

Summaries:	Number of Truckloads	Wet Tons	Dry Tons	% TS	Distance Miles
5 CAKE	Totals:	407	8552.78	1755.20	29304
	Averages:	5	103.05	21.15	20.3
	Weighted Average:				353
	Rounded Totals:		8553	1755	20.5

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METRO WASTEWATER RECLAMATION DISTRICT

12-Month Self Monitoring Summary Report

CAKE											
Date	TOTAL ARSENIC mg/Kg	TOTAL CADMIUM mg/Kg	TOTAL CHROMIUM mg/Kg	TOTAL COPPER mg/Kg	TOTAL LEAD mg/Kg	TOTAL MERCURY mg/Kg	TOTAL MOLOYBDENUM mg/Kg	TOTAL NICKEL mg/Kg	TOTAL SELENTOM mg/Kg	TOTAL ZINC mg/Kg	
01/12	1.7	0	24	585	30.0	0.59	14.6	14	9.3	6.63	
02/12	1.5	0	25	538	32.5	0.93	13.0	13	8.6	5.74	
03/12	1.6	0	23	596	65.2	1.20	11.8	14	8.1	6.13	
04/12	2.0	0	25	641	31.8	1.05	13.7	14	9.2	6.82	
05/12	1.7	1	27	696	37.1	0.85	15.7	15	10.8	6.99	
06/12	2.0	1	27	753	41.3	0.86	22.5	15	10.7	7.40	
07/12	1.9	0	28	695	36.0	0.92	20.8	13	9.4	7.00	
08/12	3.1	1	31	728	38.3	0.76	23.9	13	10.3	7.73	
09/12	1.7	1	29	791	35.6	0.90	22.5	13	8.6	7.60	
10/12	1.9	1	27	750	38.1	0.93	23.0	19	8.9	7.48	
11/12	1.7	1	25	638	36.0	0.80	22.2	14	9.0	6.80	
12/12	1.7	1	21	601	30.1	0.90	21.9	12	7.8	6.21	
Average	1.9	1	26	668	37.7	0.89	18.8	14	9.2	6.88	
Limits:											
Grade I:	41	39	1500	300	17		420	100	2800		
Grade II:	75	85	4300	840	57	75	420	100	7500		
FEC (GEO.)											
Date	SU	% DW	% DW	% DW	% DW	% DW	% DW	% DW	%	mppn/gTS	
01/12	8.3	0.00	1.18	6.25	7.37	2.05	0.274	19.40	77.0	24	97
02/12	8.4	0.00	1.27	6.04	7.31	3.03	0.246	19.66	75.0	22	97
03/12	8.4	0.00	1.28	5.40	6.72	3.17	0.268	20.05	72.0	21	98
04/12	8.4	0.00	1.26	5.91	7.13	2.87	0.248	19.89	74.4	24	98
05/12	8.3	0.00	1.22	5.95	7.15	2.64	0.215	20.21	75.2	23	98
06/12	8.4	0.00	1.34	5.87	7.07	2.74	0.221	20.49	74.2	22	98
07/12	8.2	0.00	1.40	5.43	6.83	3.13	0.244	20.89	71.1	22	98
08/12	8.5	0.00	1.19	5.74	7.01	2.76	0.224	20.70	73.1	22	98
09/12	8.5	0.00	1.01	5.72	6.73	2.47	0.188	20.78	74.7	23	99
10/12	8.5	0.00	1.00	6.01	7.01	2.53	0.222	20.80	76.1	23	98
11/12	8.4	0.00	1.08	6.09	7.17	2.55	0.225	20.64	77.0	21	98
12/12	8.5	0.00	1.04	6.27	7.31	2.27	0.213	20.75	77.8	24	98
Average	8.4	0.00	1.19	5.89	7.07	2.73	0.232	20.36	74.8	23	98
Limit:										2000000	15
											38
Class B Criteria											
Pathogen Destruction:	Solids Retention Time, Day	=	23 Days	Average	Minimum Allowed	Maximum Allowed					
And Temperature, Deg. C(Deg. F)	=	36.6(98)	15 Days								
Or Fecal Coliform, mpn/gTS	=	35 Deg. C (95 Deg. F)									
Vector Attraction Reduction: Volatile Solids Reduction	=	55.5	2,000,000	38%							

All values are based on monthly averages.

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BIO 10	9/19/12	9/20/12	112	113	114	117	119	126	134	136	132	130	123	11/21/12	STATIC PILED
BIO 11	9/26/12	9/27/12	102	131	135	135	141	143	138	116	101	88	123	11/28/12	STATIC PILED
BIO 12	10/3/12	10/4/12	135	134	132	118	114	117	125	135	136	141	129	12/5/12	STATIC PILED
BIO 13	10/10/12	10/11/12	140	131	121	125	141	114	114	118	135	135	127	12/12/12	STATIC PILED
BIO 14	10/17/12	10/18/12	135	134	132	118	114	117	125	135	136	141	129	12/19/12	STATIC PILED
BIO 15	10/24/12	10/25/12	132	144	110	132	122	118	114	115	112	123	122	12/26/12	STATIC PILED
BIO 16	10/31/12	11/1/12	100	132	132	144	117	118	110	119	132	120	122	1/2/13	STATIC PILED
BIO 1	11/7/12	11/8/12	100	140	132	125	132	133	140	118	119	112	125	1/9/13	STATIC PILED
BIO 2	11/14/12	11/15/12	114	117	119	132	125	142	113	118	118	133	123	1/16/13	STATIC PILED
BIO 3	11/21/12	11/22/12	100	118	117	123	142	128	129	130	132	132	125	1/23/13	STATIC PILED
BIO 4	11/28/12	11/29/12	118	125	135	125	122	105	114	118	135	135	123	1/30/13	STATIC PILED
BIO 5	12/5/12	12/6/12	112	113	114	117	119	126	134	136	132	130	123	2/6/13	STATIC PILED
BIO 6	12/12/12	12/13/12	102	131	135	135	141	143	138	116	101	88	123	2/13/13	STATIC PILED
BIO 7	12/19/12	12/20/12	135	134	132	118	114	117	125	135	136	141	129	2/20/13	STATIC PILED
BIO 8	12/26/12	12/27/12	140	131	121	125	141	114	114	118	135	135	127	2/27/13	STATIC PILED



LABORATORY ANALYSIS REPORT

REPORT TO: LAWTON LIEDER

LAB NO: 26514.04

BILL TO: RENEWABLE FIBER - FT LUPTON
P.O. BOX 205
FORT LUPTON CO 80621DATE RCVD: 1/13/12
REPORTED: 1/26/12

PROJECT:

PO NO.: STROMO

SAMPLE ID:	BIO-SOLID COMPOST	SAMPLE DATE:	1/13/12	
MATRIX:	COMPOST	AS RECEIVED BASIS	DRY MATTER BASIS	TMECC METHOD
TOTAL SOLIDS (%)	67.11		100.00	03.09-A
MOISTURE (%)	32.89		0.00	03.09-A
ORGANIC MATTER (%)	21.04		31.35	05.07-A
ASH (%)	46.07		68.65	05.07-A
SOLUBLE SALTS 1:5 (MMHOS/CM)	2.16		-	04-10-A
pH 1:5 (UNITS)	7.60		-	04-11-A
TOTAL NITROGEN (%)	1.124		1.675	04.02-D
ORGANIC NITROGEN (%)	0.983		1.466	CALC
AMMONIA NITROGEN (%)	0.1343		0.200	04.02-C
AMMONIA NITROGEN (PPM)	1,342.9		2,001.1	04.02-C
NITRATE NITROGEN (%)	0.0062		0.0093	04.02-B
NITRATE NITROGEN (PPM)	62.4		93.0	04.02-B
TOTAL PHOSPHORUS AS P (%)	0.719		1.071	04.03-A
TOTAL PHOSPHORUS AS P2O5 (%)	1.653		2.463	04.03-A
TOTAL POTASSIUM AS K (%)	0.658		0.980	04.03-A
TOTAL POTASSIUM AS K2O (%)	0.789		1.176	04.04-A
C/N RATIO	10		10	CALC
AMMONIA-N/NITRATE-N RATIO	21.5		21.5	CALC

COLORADO ANALYTICAL LABORATORY IS AN APPROVED TESTING FACILITY FOR THE US COMPOSTING COUNCIL'S SEAL OF TESTING ASSURANCE PROGRAM. SEE THE US COMPOSTING COUNCIL'S WEB SITE AT WWW.COMPOSTINGCOUNCIL.ORG FOR MORE INFORMATION.
TMECC = "TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST"; US COMPOSTING COUNCIL; AUG 2001; W.H. THOMPSON

ANALYSIS SUPERVISED BY

DATA APPROVED FOR RELEASE BY

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240 South Main Street / Brighton, Colorado 80601-0507 / 303-659-2313
Mailing Address: P.O. Box 507 / Brighton, Colorado 80601-0507 / Fax: 303-659-2315



LABORATORY ANALYSIS REPORT

REPORT TO: LAWTON LIEDER

LAB NO: 26514.04

BILL TO: RENEWABLE FIBER - FT LUPTON
P.O. BOX 205
FORT LUPTON CO 80621DATE RCVD: 1/13/12
REPORTED: 1/26/12

PROJECT: STROMO/MORWAI COMPOST

PO NO.: STROMO

SAMPLE ID: BIO-SOLID COMPOST

MATRIX: COMPOST

SAMPLE DATE: 1/13/12

	AS RECEIVED BASIS	DRY MATTER BASIS	TMECC METHOD
TOTAL SOLIDS (%)	67.11	100.00	03.09-A
MOISTURE (%)	32.89	0.00	03.09-A
ORGANIC MATTER (%)	21.04	31.35	05.07-A
ASH (%)	46.07	68.65	05.07-A
SOLUBLE SALTS 1:5 (MMHOES/CM)	2.16	-	04-10-A
pH 1:5 (UNITS)	7.60	-	04-11-A
TOTAL NITROGEN (LBS/TON)	22.480	33.500	04.02-D
ORGANIC NITROGEN (LBS/TON)	19.670	29.312	CALC
AMMONIA NITROGEN (LBS/TON)	2.6857	4.002	04.02-C
NITRATE NITROGEN (LBS/TON)	0.1248	0.1860	04.02-B
TOTAL PHOSPHORUS AS P (LBS/TON)	14.374	21.420	04.03-A
TOTAL PHOSPHORUS AS P2O5 (LBS/TON)	33.060	49.266	04.03-A
TOTAL POTASSIUM AS K (LBS/TON)	13.154	19.602	04.04-A
TOTAL POTASSIUM AS K2O (LBS/TON)	15.785	23.522	04.04-A
C/N RATIO	10	10	CALC
AMMONIA-N/NITRATE-N RATIO	21.5	21.5	CALC

TO CONVERT % TO PPM MULTIPLY BY 10,000. TO CONVERT % TO LBS/TON MULTIPLY BY 20.

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TMECC = "TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST"; US COMPOSTING COUNCIL; AUG 2001; W.H. THOMPSON

ANALYSIS SUPERVISED BY

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Mailing Address: P.O. Box 507 / Brighton, Colorado 80601-0507 / Fax: 303-659-2315



LABORATORY ANALYSIS REPORT

REPORT TO: LAWTON LIEDER

LAB NO: 26514.04

BILL TO: RENEWABLE FIBER - FT LUPTON
P.O. BOX 205
FORT LUPTON CO 80621

DATE RCVD: 1/13/12

REPORTED: 1/26/12

PROJECT:

PO NO.: STROMO

SAMPLE ID: **BIO-SOLID COMPOST**

MATRIX: COMPOST

SAMPLE DATE: 1/13/12

	AS RECEIVED BASIS	DRY WEIGHT BASIS	TMECC/EPA METHOD
FECAL COLIFORM (MPN/G)	-	<10	07.01-B
PASS/FAIL - USEPA CLASS A PATHOGEN STD	-	PASS	-

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TMECC = "TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST"; US COMPOSTING COUNCIL, AUG 2001, W.L. THOMPSON





LABORATORY ANALYSIS REPORT

REPORT TO: LAWTON LIEDER

LAB NO: 26643.02

BILL TO: RENEWABLE FIBER
2600 WEST OXFORD
ENGLEWOOD CO 80010

DATE RCVD: 8/16/12

REPORTED: 8/31/12

PROJECT:

PO NO.:

SAMPLE ID: **BIO-COMPOST**

MATRIX: COMPOST

SAMPLE DATE: 8/16/12

	AS RECEIVED BASIS	DRY MATTER BASIS	TMECC METHOD
TOTAL SOLIDS (%)	68.27	100.00	03.09-A
MOISTURE (%)	31.73	0.00	03.09-A
ORGANIC MATTER (%)	20.62	30.20	05.07-A
BULK DENSITY (LBS/CU YD)	1,160	792	SSSA
ASH (%)	47.65	69.80	05.07-A

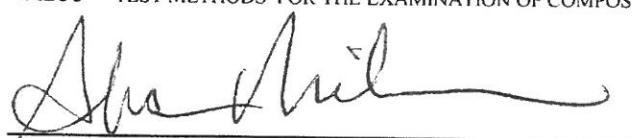
SOLUBLE SALTS 1:5 (MMHOS/CM)	2.28	-	04-10-A
pH 1:5 (UNITS)	8.74	-	04-11-A

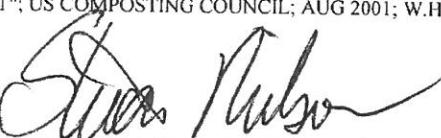
TOTAL NITROGEN (%)	1.014	1.486	04.02-D
ORGANIC NITROGEN (%)	0.868	1.272	CALC
AMMONIA NITROGEN (%)	0.1293	0.189	04.02-C
AMMONIA NITROGEN (PPM)	1,292.7	1,893.7	04.02-C
NITRATE NITROGEN (%)	0.0170	0.0250	04.02-B
NITRATE NITROGEN (PPM)	170.4	249.6	04.02-B
TOTAL PHOSPHORUS AS P (%)	0.887	1.300	04.03-A
TOTAL PHOSPHORUS AS P2O5 (%)	2.041	2.990	04.03-A
TOTAL POTASSIUM AS K (%)	0.192	0.281	04.04-A
TOTAL POTASSIUM AS K2O (%)	0.230	0.337	04.04-A
C/N RATIO	11	11	CALC
AMMONIA-N/NITRATE-N RATIO	7.6	7.6	CALC

TO CONVERT % TO PPM MULTIPLY BY 10,000. TO CONVERT % TO LBS/TON MULTIPLY BY 20.

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LABORATORY ANALYSIS REPORT

REPORT TO: LAWTON LIEDER

LAB NO: 26643.02

BILL TO: RENEWABLE FIBER

DATE RCVD: 8/16/12

2600 WEST OXFORD

REPORTED: 9/6/12

ENGLEWOOD CO 80010

PROJECT:

PO NO.:

SAMPLE ID: BIO-COMPOST

MATRIX: COMPOST

SAMPLE DATE: 8/16/12

	AS RECEIVED BASIS	DRY MATTER BASIS	TMECC METHOD
TOTAL SOLIDS (%)	68.27	100.00	03.09-A
MOISTURE (%)	31.73	0.00	03.09-A
ARSENIC (MG/KG)	1.8	2.6	04.06/ 7060
CADMIUM (MG/KG)	0.6	0.9	04.06/ 7130
CHROMIUM (MG/KG)	8.5	12.5	04.06/ 7190
COPPER (MG/KG)	163.4	239.3	04.06/ 7210
LEAD(MG/KG)	12.1	17.8	04.06/ 7420
MERCURY (MG/KG)	0.5	0.7	04.06/ 7471
MOLYBDENUM (MG/KG)	4.5	6.6	04.06/ 7480
NICKEL (MG/KG)	6.4	9.4	04.06/ 7520
SELENIUM (MG/KG)	2.1	3.1	04.06/ 7740
ZINC (MG/KG)	227.1	332.6	04.06/ 7950
PASS/ FAIL - USEPA CLASS A METALS STD	-	PASS	-

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LABORATORY ANALYSIS REPORT

REPORT TO: LAWTON LIEDER

LAB NO: 26643.02

BILL TO: RENEWABLE FIBER
2600 WEST OXFORD

DATE RCVD: 8/16/12

ENGLEWOOD CO 80010

REPORTED: 9/6/12

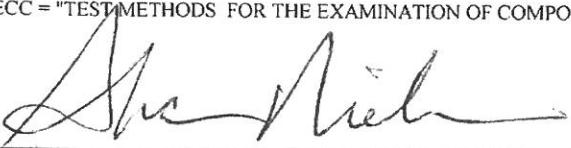
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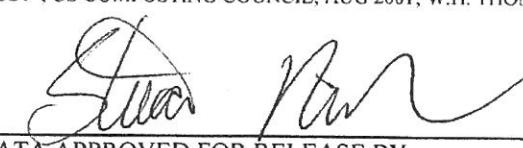
PO NO.:

SAMPLE ID: BIO-COMPOST	MATRIX: COMPOST	SAMPLE DATE: 8/16/12	TMECC METHOD
		AS RECEIVED BASIS	DRY MATTER BASIS
TOTAL SOLIDS (%)	68.27	100.00	03.09-A
MOISTURE (%)	31.73	0.00	03.09-A
FECAL COLIFORM (MPN/G)	-	264	07.01-B
PASS/ FAIL - USEPA CLASS A PATHOGEN STD	-	PASS	-

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